

(vii) When the device uses the radius as a factor in its use or in its operating indications, the indicated radius (which may be in feet and/or meters, or degrees of boom angle, depending on the system used) shall be a figure which is within the range of a figure no greater than 110 percent of the actual radius to a figure which is no less than 97 percent of the actual (true) radius. A conversion chart shall be provided whenever it is necessary to convert between degrees of radius and feet or meters.

(viii) The load indicating device requirements of this subparagraph do not apply to a crane:

(A) Of trolley equipped bridge type or overhead type while handling intermodal containers known to be identified as empty, or loaded, and in either case in compliance with the provisions of § 1917.71, or while hoisting other lifts by means of a lifting beam supplied by the crane manufacturer for the purpose, and in all cases within the crane rating;

(B) While handling bulk commodities or cargoes by means of clamshell bucket or magnet;

(C) While used to handle or hold hoses in connection with transfer of bulk liquids or other hose handled products; or

(D) While the crane is used exclusively to handle cargo or equipment the total actual gross weight of which is known by means of marking of the unit or units hoisted, when such total actual gross weight never exceeds 11,200 lbs., and when 11,200 lbs., is less than the rated capacity of the crane at the maximum outreach that is possible under the conditions of use at the time.

[48 FR 30909, July 5, 1983, as amended at 62 FR 40199, July 25, 1997]

§ 1917.47 Winches.

(a) Moving winch parts which present caught-in hazards to employees shall be guarded.

(b) Winches shall have clearly identifiable and readily accessible stop controls.

(c) Portable winches shall be secured against accidental shifting while in use.

(d) Portable winches shall be fitted with limit switches if employees have

access to areas from which it is possible to be drawn into the winch.

(e) The provisions of § 1917.45(f)(11) shall apply to winches.

§ 1917.48 Conveyors.

(a) *Guards.* (1) Danger zones at or adjacent to conveyors shall be guarded to protect employees.

(2) An elevated walkway with guardrail or equivalent means of protection shall be provided where employees cross over moving conveyors, and suitable guarding shall be provided when employees pass under moving conveyors.

(b) *Moving parts.* Conveyor rollers and wheels shall be secured in position.

(c) *Positioning.* Gravity conveyor sections shall be firmly placed and secured to prevent them from falling.

(d) *Braking.* (1) When necessary for safe operation, provisions shall be made for braking objects at the delivery end of the conveyor.

(2) Conveyors using electrically released brakes shall be constructed so that the brakes cannot be released until power is applied, and so that the brakes are automatically engaged if the power fails or the operating control is returned to the "stop" position.

(e) *Stability.* Portable conveyors shall be stable within their operating ranges. When used at variable fixed levels, the unit shall be secured at the operating level.

(f) *Emergency stop devices.* Readily accessible stop controls shall be provided for use in an emergency. Whenever the operation of any power conveyor requires personnel to work in the immediate vicinity of the conveyor, the Conveyor or controls shall not be left unattended while the conveyor is in operation.

(g) *Starting powered conveyors.* Powered conveyors shall not be started until all employees are clear of the conveyor or have been warned that the conveyor is about to start.

(h) *Loading and unloading.* The area around conveyor loading and unloading points shall be kept clear of obstructions during conveyor operations.

(i) *Lockout/Tagout.* (1) Conveyors shall be stopped and their power

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sources locked out and tagged out during maintenance, repair, and servicing, unless power is necessary for testing.

(2) The starting device shall be locked out and tagged out in the stop position before an attempt is made to remove the cause of a jam or overload of the conveying medium, unless it is necessary to have the power on to remove the jam.

(j) *Safe practices.* (1) Only designated persons shall operate, repair or service powered conveyors.

(2) The employer shall direct employees to stay off operating conveyors.

(3) Conveyors shall be operated only with all overload devices, guards and safety devices in place and operable.

[48 FR 30909, July 5, 1983, as amended at 62 FR 40200, July 25, 1997]

§ 1917.49 Spouts, chutes, hoppers, bins, and associated equipment.

(a) Standing and running rigging and associated gear used as a permanent part of spouts, chutes or similar devices shall be inspected before each use and shall not be used if it has any functional defects. (See also § 1917.50(c)(2) for certification requirements.)

(b) Direct communication shall be provided between the discharge or shipboard control end of loading spouts and chutes and the point in the terminal from which the flow of cargo is controlled.

(c) Chute and hopper openings which present a hazard shall be guarded to prevent employees from falling through them.

(d) When employees are working on hoppers, the hopper shall be equipped with a safe walkway and means of access.

(e) When necessary for the safety of employees, chutes shall be equipped with sideboards to afford protection from falling objects.

(f) Chutes shall be firmly placed and secured to prevent them from falling.

(g) When necessary for the safety of employees, provisions shall be made for braking objects other than bulk commodities at the delivery end of the chute.

(h) Before an employee enters an empty bin:

(1) Personnel controlling the flow of cargo into the bin shall have been notified of the entry; and

(2) The power supply to the equipment carrying the cargo to the bin shall be turned off, locked out and tagged.

(i) Before an employee enters a bin containing a bulk commodity such as coal or sugar, the employer shall ensure that:

(1) Personnel controlling the flow of cargo into the bin have been notified of the entry;

(2) The power supply to the equipment carrying the cargo to the bin is turned off, locked out and tagged.

(3) The employee entering the bin wears a lifeline and safety harness; and

(4) A standby attendant equipped to perform a rescue is continuously stationed outside the bin until the employee has left the bin.

(j) Bin top openings that present a hazard to employees shall be covered to prevent employees from falling into bins.

(k) Chutes and hoppers shall be repaired only by designated persons.

(l)(1) Before power shoveling operations begin, a designated person shall inspect the equipment to be used. The inspection shall include at least the eye bolts, wires, and sheaves.

(2) Power shovels and associated equipment with defects affecting safe operation shall not be used.

(3) Before adjustments are made to a power shovel, wire, or associated equipment, the power supply to the shovel shall be turned off, locked out, and tagged, the belt stopped, and the hopper closed.

§ 1917.50 Certification of marine terminal material handling devices (See also mandatory appendix I, of this part).

(a) The employer shall not use any material handling device listed in paragraph (c) of this section until he has ascertained that the device has been certificated, as evidenced by current and valid documents attesting to compliance with the requirements of paragraph (b) of this section.

(1) Certification surveys are to be completed for the conditions of use found at the time such surveys are completed, with the understanding